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ABSTRACT

A study of bilingual development in preschool children had two components: (1) a followup of a previous study in which the English and Spanish language development of children in a high-quality bilingual preschool remained stable over time, and (2) a replication of the study with a different cohort. The original study found that native Spanish-speaking children in a bilingual preschool program and children not in the program had improved English and Spanish skills after one year, but the bilingual program participants had especially large gains in English. Followup showed that both groups continued significant gains in both languages during a second year, with the bilingual program children continuing to make larger gains in English. The replication sample was a similar number of children from the same community, similarly divided into bilingual program and control groups. Similar results emerged from this study. It is concluded that participation in a high-quality bilingual preschool program does promote development of both native and second language skills, does not impeded native language development, and significantly enhances second language learning. (Contains 12 references. Appended materials include charts and graphs of the two studies' findings.) (MSE)

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Learning a Second Language Does Not Mean Losing the First: A Replication and Follow up of Bilingual Language Development in Spanish-Speaking Children Attending Bilingual Preschool

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Learning a Second Language Does not Mean Losing the First: A Replication and Follow Up of Bilingual Language Development in Spanish-Speaking Children Attending Bilingual Preschool

Background/Rationale/Objective

A central concern in the education of language minority children in the U.S. is how best to insure that students will acquire full competence in the English language without losing their primary language and cultural identity (Genesee, 1994; Kagan & Garcia, 1991). Does early schooling in English harm the development and/or maintenance of language minority children's mother tongue? Language loss, or subtractive bilingualism, in which individuals lose proficiency in their first language upon acquiring a second (usually the majority) language is known to occur both across generations and, to a lesser extent, within individuals (Hakuta & D'Andrea, 1992; Pease-Alvarez & Winsler, 1994; Veltman, 1988). However, the extent to which such language substitution takes place within individual children during the early years and the role that early schooling plays in bilingual language development have been matters of some debate. Indeed, debate over language practices in the early schooling of language minority children intensified considerably with the publication of the N.A.B.E. "No Cost" study (Wong Fillmore, 1991) which suggested that 1) Spanish-speaking children attending monolingual English or bilingual preschool programs rapidly lose proficiency in Spanish, and 2) such losses in children's proficiency in Spanish, the language spoken in the home by parents, are sufficiently extensive to disrupt parent-child communication and family relationships.

Rodríguez, Díaz, Duran, and Espinosa (1995) revealed a number of methodological and conceptual problems with the "No Cost" study and reported data from a well-controlled investigation involving comparable groups of low-income, Mexican-origin, children who either did or did not attend a high-quality, bilingual, preschool program for one year. These data showed no evidence of loss in Spanish proficiency over a one year period for children attending the preschool program. Expressive and receptive language abilities in English and Spanish improved over time for both groups with children attending the bilingual preschool experiencing especially large gains in English. Although Rodríguez et al. (1995) clearly indicate that the fears raised by Wong Fillmore (1991) are unfounded, no one study is sufficient to definitively answer such an important question.

The present study addressed two issues which remained unanswered in Rodríguez et al. (1995) - 1) whether or not observed patterns of bilingual language development remain stable over time with continued attendance in bilingual preschool, and 2) whether or not the findings of Rodríguez et al. (1995) generalize to a different sample. It is possible, for example, that the supposed deleterious effects on children's Spanish proficiency of early systematic exposure to English do not appear until after children participate in bilingual preschool programs for some time. Also possible is that Rodríguez et al.'s findings are specific to their one sample. Thus, the goals of the present study were to a) conduct a follow up on the Rodríguez et al. (1995) sample measuring bilingual language development as children spend another year attending bilingual preschool, and b) attempt replication of the one-year findings of Rodríguez et al. with a different cohort of children.

Method

The *longitudinal follow up sample* consisted of 43 (88%) of Rodríguez et al.'s (1995) original sample of 49 Spanish-speaking preschool children, mostly of Mexican descent, from a low-income, predominately immigrant community in the San Francisco metropolitan area. 26 of these children formed the "preschool group" (50% female) as they attended, for their second year, an early intervention preschool program which required family poverty level income to qualify.

The other 15 children (66% female), who were from the same community but who did not attend any formal preschool or daycare, comprised the control group. Data were collected from children a total of four times. T1 (age ≈ 3.5 years) and T2 (age ≈ 4 years) results were reported in Rodríguez et al. (1995) and T3 (age ≈ 4.5 years) and T4 (age ≈ 5 years) findings are discussed here.

The *replication sample* consisted of 48 new children (age ≈ 3.5 years, 48% female) from the same community. 28 of these children formed the preschool group as they represented the second cohort of three year olds to enter the same bilingual preschool, and the other 20 children who did not participate in a formal childcare arrangement formed the control group.

The *preschool* groups attended a full day, high-quality, subsidized preschool program for children of low income families that was implemented in three different elementary school sites within the community; each site offering two, combined 3-4 year old classrooms. The centers were modeled after the High Scope curriculum and the bilingual teachers' language use goals for the classroom were to spend half of each day speaking English and the remaining half Spanish. Classroom observations reported in Rodríguez et al. (1995) revealed that teachers' language use patterns varied somewhat from class to class but that the modal proportion of English to Spanish used by the teachers approximated 50/50.

Measures of children's receptive language ability in English consisted of the Peabody Picture Vocabulary Test--Revised (PPVT-R; Dunn & Dunn, 1981) and the sentence comprehension subtest of the Language Assessment Scales (LAS: De Avila & Duncan, 1981). Children's receptive language skill in Spanish was measured by the Spanish version of the PPVT (TVIP; Dunn, Padilla, Lugo, & Dunn, 1986) and the Spanish sentence comprehension subtest of the LAS. Productive language development in English and Spanish was assessed via the lexical subtests of the LAS and the number of words produced in a story-retelling task. Language complexity in English and Spanish was measured by the number of verbs produced by the child during the story-retelling task and by the average number of words per verb phrase used in their story. All tests were administered by trained, female, bilingual, research assistants hired from the same community. A series of multivariate and univariate mixed ANOVAs, with time as the repeated measure, group membership as the between-subjects variable, and language measures as the dependent variable, was conducted.

Results/Conclusions

Replication. The results from this study replicate Rodríguez et al. (1995) in showing, with a new sample, that Spanish-speaking, 3-4 year old children enrolled in high quality, bilingual preschools make significant gains in both Spanish and English language abilities over the course of one year of preschool. No evidence was found to suggest that children's Spanish language proficiency is in any way compromised by exposure to English in the preschool classroom. The receptive language, productive language, and language complexity in Spanish of children who attended preschool increased significantly over the one year period, in the same way that was observed for the control children who stayed home during the day. The English skills of both groups of children also improved significantly over time, however, the preschool group made significantly greater gains during the year in English word and narrative production compared to the control group.

Longitudinal follow up. The bilingual language development patterns discussed above and reported in Rodríguez et al. (1995) continue and strengthen a year later as the two groups of children reach their fifth birthday. Both groups of children continue to show significant gains over the full two year period in both Spanish and English language proficiency, with the preschool group continuing to make greater gains than the control group in English. At T3 and T4, the advantage of the preschool children over the control children in English proficiency became more and more pronounced as indicated by significant group and group by time interaction effects in the

ANOVAs. Sustained second-year participation in a bilingual preschool does not have a detrimental effect on children's Spanish language development. In fact, children who attended the preschool even began to show a distinct advantage at T3 and T4 over control children who stayed at home in two important areas of Spanish language proficiency and literacy: narrative production and narrative complexity. Early, high-quality, bilingual educational experiences in preschool appear to produce important gains in language and literacy which generalize across both languages.

The present study provides additional and strong evidence that high quality bilingual preschool experiences promote the development of both Spanish and English language competence, rather than impede the development of Spanish proficiency as has been suggested (Wong Fillmore, 1991). Other research to date concurs that even though young language minority children experience great pressure from peers, schools, and society to adopt English as their primary language, there is little evidence that Spanish language loss occurs in the process, at least not for young children (Faulstich Orellana, 1994; Umbel, Pearson, Fernández, & Oller, 1992). Important issues which will need to be addressed in future research include a) the effect of the quality and type of the English/ bilingual preschool attended by language minority children, b) exploration into variation in the language environments of Spanish-speaking children who do not attend formal preschool, c) the effect of the age of child and whether or not there is an important difference in school experiences which foster the original development of language competence (that which was studied here) versus the maintenance of one's language skills already acquired, and d) investigation into other components or manifestations of language loss, such as language choice and language attitudes. It does appear possible, however, to provide a preschool experience for language minority children which promotes the simultaneous development of two languages and fosters the maintenance of children's cultural identities.

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METHOD

Community

- San Francisco Bay Area/San Jose, California
- Recent immigrants from Mexico
- Low-income, low education
- Transitional elementary bilingual education programs
- Fair-to-high community support for Spanish

Replication Sample

- 46 Preschoolers (T1 Age M = 42.7 mos., 52% Female)
  - 26 Preschool group
  - 20 Control group (No formal child care arrangements)

Follow-up Sample (88% of Rodriguez et al.'s original sample)

- 43 Preschool Children (T3 Age M = 55.8 mos. , 56% female)
  - 26 Preschool group (2nd year in program)
  - 15 Control group

Preschool Program

- Full school day, high quality, subsidized preschool for qualifying families
- On-site at 3 local elementary schools
- Each site with 2, mixed-age (3s & 4s) classrooms, with 1 teacher and 1 aide
- High Scope-type curriculum
- Bilingual teachers' language goals 50/50 Spanish/English

Design

- Pretest (beginning of school year) and Posttest (end of school year)
- Language Development Measures

MEASURES

Receptive Language Ability

ENGLISH

- **Peabody Picture Vocabulary Test - Revised** (PPVT-R; Dunn & Dunn, 1981)
- **Language Assessment Scales** - Sentence Comprehension (LAS; De Avila & Duncan, 1981)

SPANISH

- **Test de Vocabulario en Imágenes Peabody - Adaptación Hispanoamericana** (TVIP; Dunn, Padilla, Lugo, & Dunn, 1981)
- **Language Assessment Scales** - Sentence Comprehension (LAS; De Avila & Duncan, 1981)

Productive Language Ability

ENGLISH

- **Language Assessment Scales** - Lexical Production (LAS; De Avila & Duncan, 1981)
- **Story Re-Telling Task** - Number of words produced

SPANISH

- **Language Assessment Scales** - Lexical Production (LAS; De Avila & Duncan, 1981)
- **Story Re-Telling Task** - Number of words produced

Language Complexity

ENGLISH

- **Story Re-Telling Task** - Number of verbs produced
- **Story Re-Telling Task** - Average number of words per verb phrase

SPANISH

- **Story Re-Telling Task** - Number of verbs produced
- **Story Re-Telling Task** - Average number of words per verb phrase

REPLICATION DATA - One Year

Means (and Standard Deviations) of English Measures
at Pretest and Posttest, for Preschool and Control Children

		Preschool Children		Control Children	
ENGLISH		Pretest	Posttest	Pretest	Posttest
Receptive Language Skills	PPVT [ab]	6.69 (4.31)	12.12 (6.68)	5.00 (4.29)	8.20 (7.04)
	Sentence Comprehension [ab]	3.54 (1.68)	4.69 (1.87)	3.15 (1.79)	3.35 (1.81)
Productive Language Skills	Lexical Production [abc]	2.46 (3.29)	6.15 (3.81)	.85 (1.53)	2.65 (3.38)
	Number of Words in Story [b]	4.23 (7.50)	26.62 (34.25)	7.65 (25.68)	17.8 (33.94)
Language Complexity	Number of Verbs in Story [b]	.54 (1.53)	4.42 (6.10)	.65 (2.91)	3.55 (7.09)
	Complexity of Verb Phrase [b]	.20 (.49)	.56 (.70)	.10 (.47)	.37 (.66)

NOTE:

[a] Significant group effect - univariate mixed ANOVA
[b] Significant time effect - univariate mixed ANOVA
[c] Significant group by time interaction - univariate mixed ANOVA

REPLICATION DATA - One Year

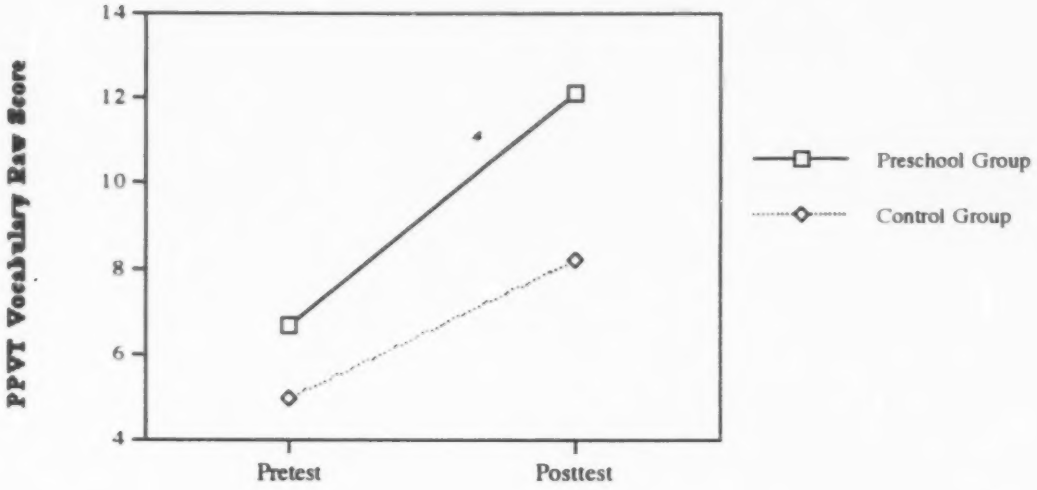
Means (and Standard Deviations) of Spanish Measures
at Pretest and Posttest, for Preschool and Control Children

		Preschool Children		Control Children	
SPANISH		Pretest	Posttest	Pretest	Posttest
Receptive Language Skills	PPVT [b]	9.23 (8.80)	18.08 (10.87)	8.05 (8.15)	15.90 (13.08)
	Sentence Comprehension [b]	5.15 (1.93)	6.77 (2.29)	4.65 (1.69)	5.30 (2.20)
Productive Language Skills	Lexical Production [b]	8.42 (3.85)	11.42 (3.87)	8.30 (4.30)	10.10 (4.05)
	Number of Words in Story	42.42 (43.91)	58.65 (43.48)	36.00 (33.70)	44.85 (33.88)
Language Complexity	Number of Verbs in Story [b]	8.35 (8.25)	11.12 (7.33)	5.45 (5.90)	8.50 (6.79)
	Complexity of Verb Phrase	1.12 (.88)	1.29 (.53)	.89 (.72)	1.02 (.66)

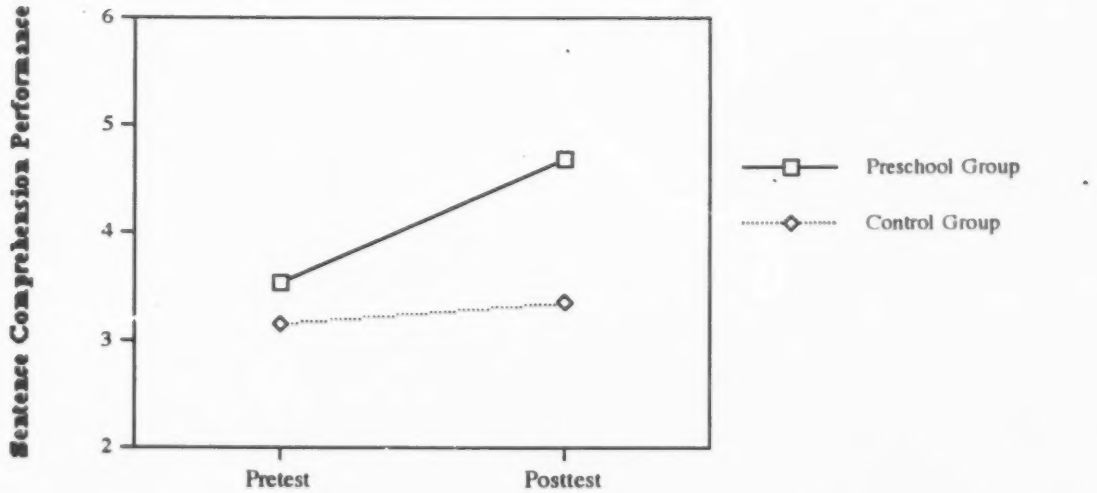
NOTE:
[b] Significant time effect - univariate mixed ANOVA

RECEPTIVE LANGUAGE - ENGLISH

PPVT

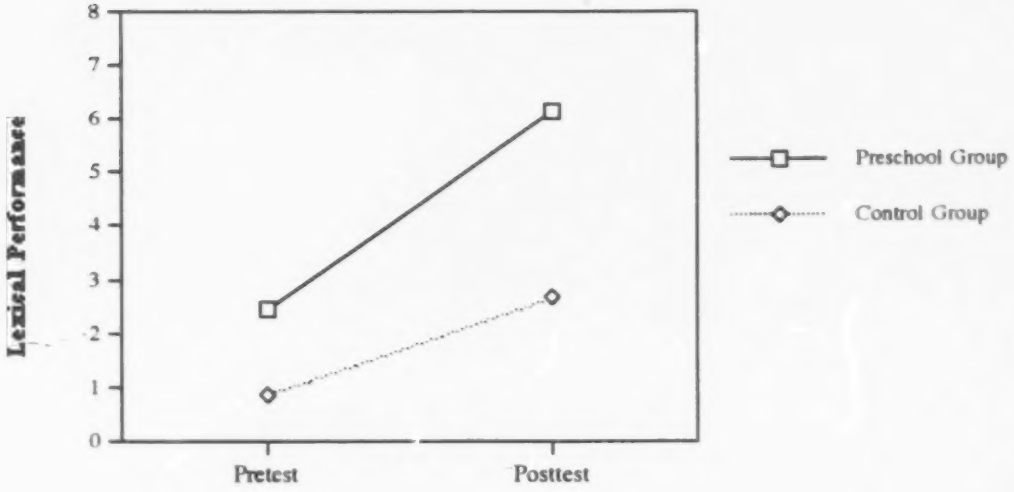


Sentence Comprehension

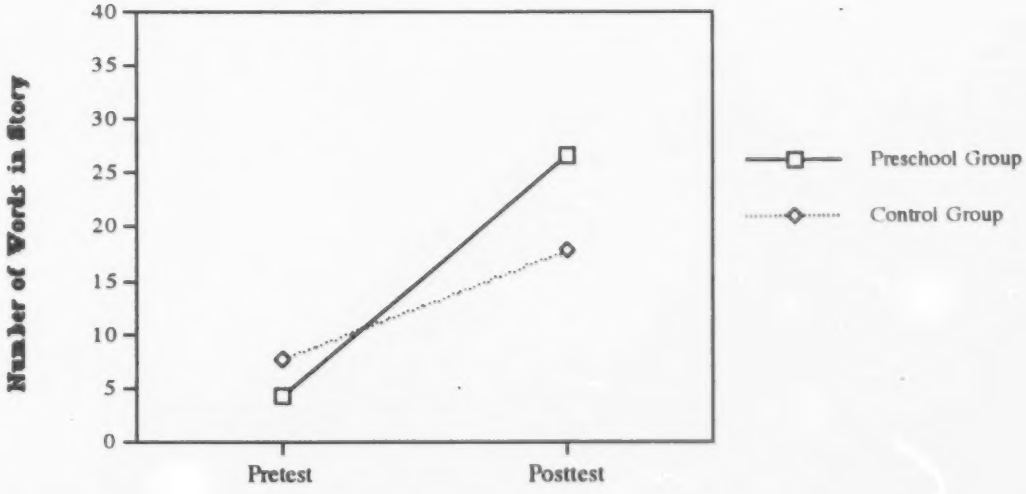


PRODUCTIVE LANGUAGE - ENGLISH

Lexical Production

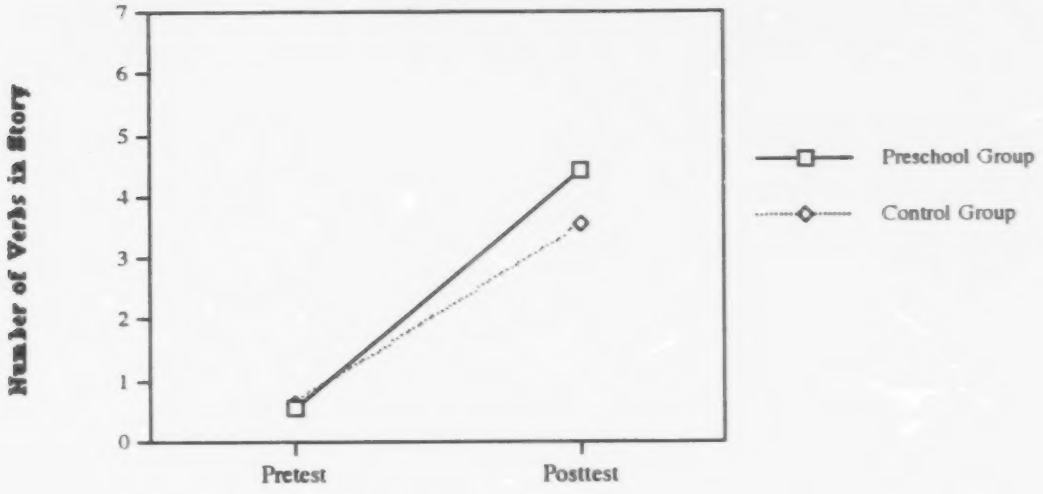


Number of Words in Story

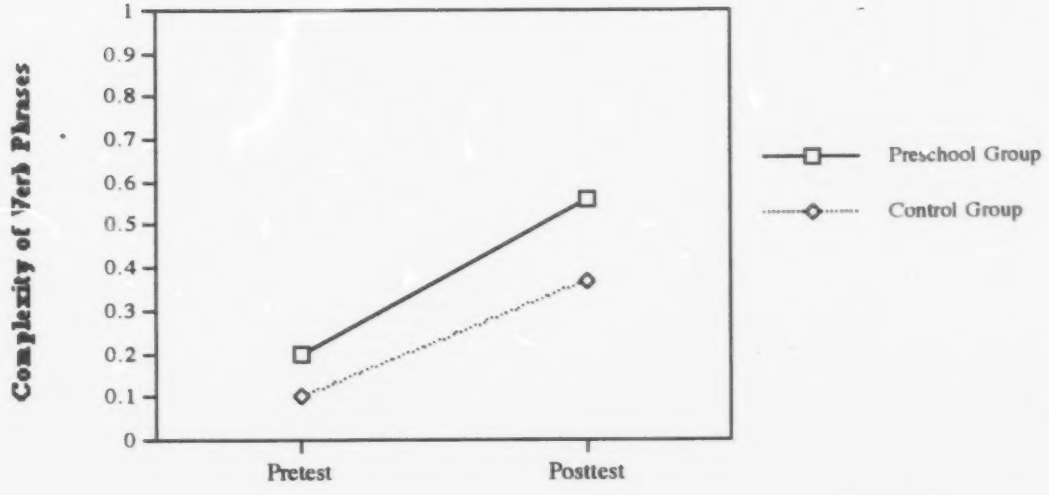


LANGUAGE COMPLEXITY - ENGLISH

Number of Verbs in Story

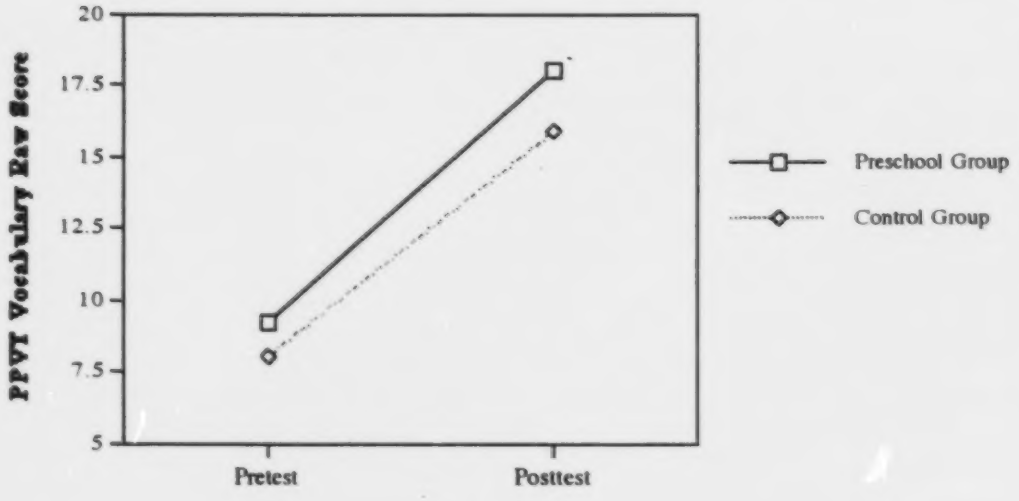


Complexity of Verb Phrases

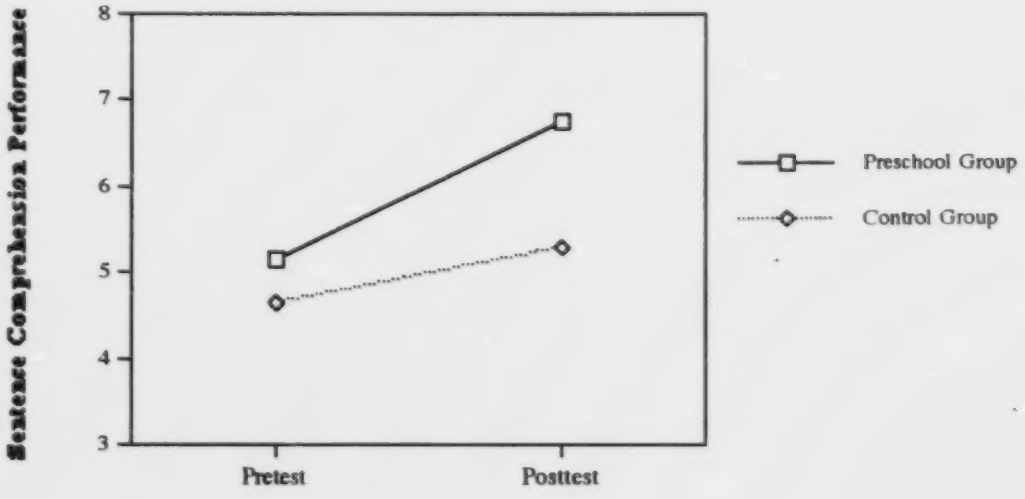


RECEPTIVE LANGUAGE - SPANISH

PPVT

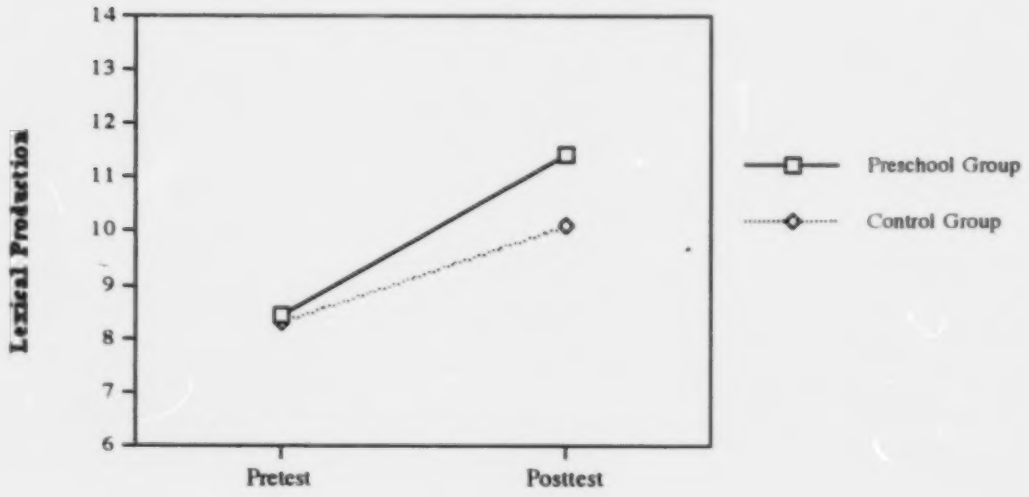


Sentence Comprehension

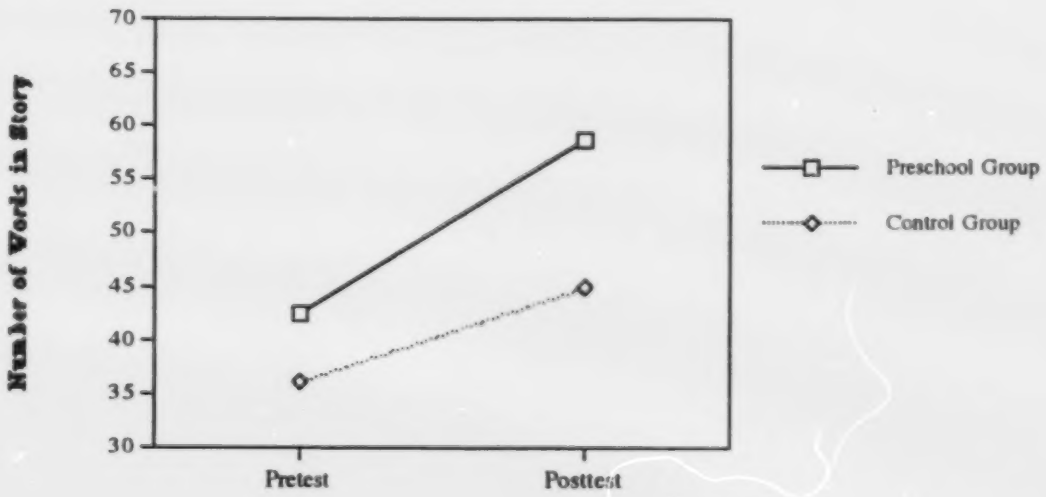


PRODUCTIVE LANGUAGE - SPANISH

Lexical Production

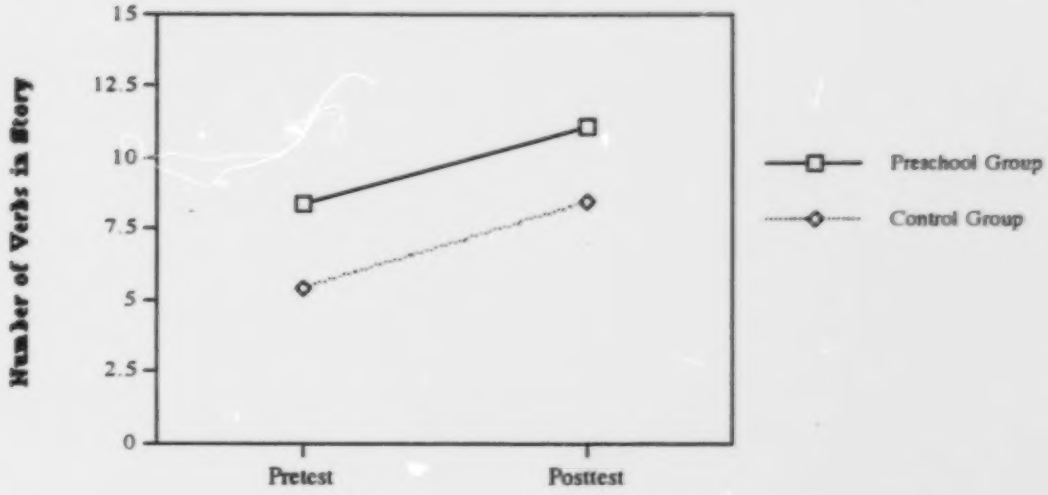


Number of Words in Story

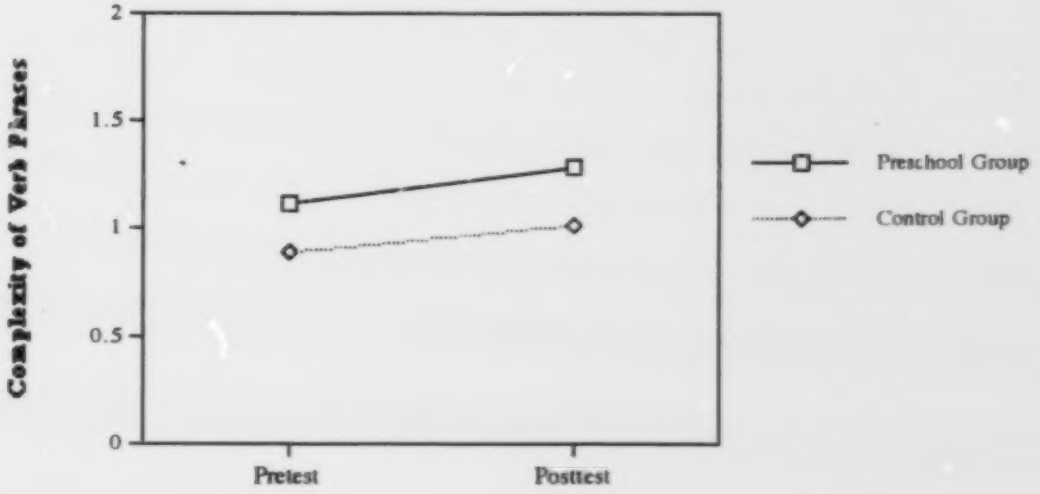


LANGUAGE COMPLEXITY - SPANISH

Number of Verbs in Story



Complexity of Verb Phrases



FOLLOW-UP DATA - Two Years

Means (and Standard Deviations) of English Measures
from T1 to T4, for Preschool and Control Children

		Preschool Children				Control Children			
ENGLISH		T1	T2	T3	T4	T1	T2	T3	T4
Receptive Language Skills	PPVT [b]	9.64 (7.61)	19.44 (10.49)	21.56 (12.03)	27.00 (11.70)	7.15 (6.43)	15.23 (10.83)	15.92 (12.54)	20.31 (13.31)
	Sentence Comprehension [b]	3.77 (1.82)	5.19 (1.62)	5.58 (1.45)	5.81 (1.74)	3.33 (1.67)	5.50 (3.40)	5.33 (1.77)	5.25 (2.34)
Productive Language Skills	Lexical Production [b]	4.04 (4.48)	7.96 (5.21)	9.65 (4.68)	11.42 (4.11)	3.54 (3.60)	4.08 (4.50)	6.85 (6.01)	8.69 (6.45)
	Number of Words in Story [ab]	20.57 (37.86)	41.70 (30.78)	73.70 (52.58)	81.65 (65.36)	10.62 (17.21)	15.62 (28.49)	46.85 (68.75)	54.92 (39.34)
Language Complexity	Number of Verbs in Story [ab]	4.46 (8.83)	7.46 (6.4)	12.04 (8.83)	13.83 (10.89)	1.77 (3.63)	2.46 (4.68)	7.85 (11.72)	9.08 (6.43)
	Complexity of Verb Phrase [bc]	.42 (.64)	.86 (.53)	1.05 (.54)	1.16 (.68)	.60 (.88)	.29 (.60)	.73 (.73)	.93 (.58)

NOTE:

[a] Significant group effect - univariate mixed ANOVA
[b] Significant time effect - univariate mixed ANOVA
[c] Significant group by time interaction - univariate mixed ANOVA

FOLLOW-UP DATA - Two Years

Means (and Standard Deviations) of Spanish Measures from T1 to T4, for Preschool and Control Children

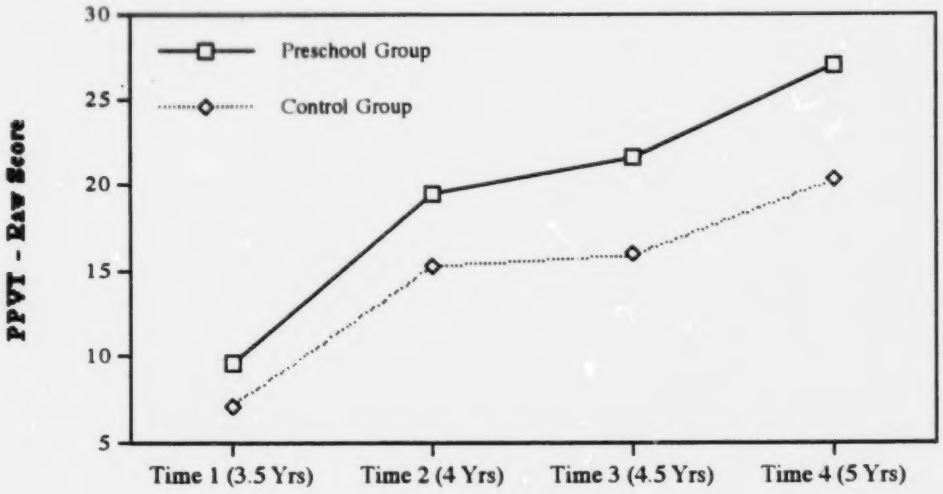
		Preschool Children				Control Children			
SPANISH		T1	T2	T3	T4	T1	T2	T3	T4
Receptive Language Skills	PPVT [b]	8.73 (5.44)	18.89 (12.22)	24.04 (14.58)	32.65 (14.02)	10.40 (4.94)	19.13 (10.51)	20.80 (12.57)	31.93 (16.12)
	Sentence Comprehension [bc]	5.92 (2.30)	6.89 (2.23)	6.69 (1.57)	7.27 (1.97)	6.87 (1.88)	7.13 (1.64)	5.47 (2.00)	6.80 (1.52)
Productive Language Skills	Lexical Production [b]	8.88 (4.32)	10.38 (5.11)	11.67 (4.49)	12.13 (4.79)	10.73 (3.39)	12.13 (3.54)	12.33 (3.50)	13.40 (3.74)
	Number of Words in Story [b]	42.42 (45.43)	44.16 (31.81)	75.16 (57.85)	109.26 (122.18)	36.21 (18.40)	38.14 (25.77)	64.93 (29.55)	83.14 (41.73)
Language Complexity	Number of Verbs in Story [b]	8.05 (7.09)	10.10 (7.92)	13.05 (10.26)	19.19 (17.34	6.36 (4.34)	6.93 (5.06)	10.50 (4.59)	14.57 (6.48)
	Complexity of Verb Phrase [a]	.93 (.71)	1.12 (.68)	1.17 (.55)	1.13 (.60)	1.35 (.50)	1.52 (.52)	1.44 (.46)	1.21 (.28)

NOTE:

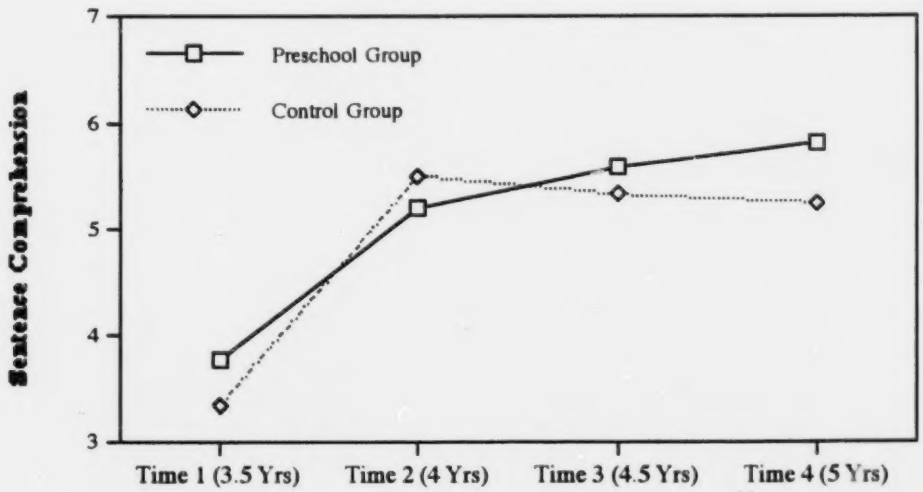
[a] Significant group effect - univariate mixed ANOVA
[b] Significant time effect - univariate mixed ANOVA
[c] Significant group by time interaction - univariate mixed ANOVA

RECEPTIVE LANGUAGE - ENGLISH

PPVT

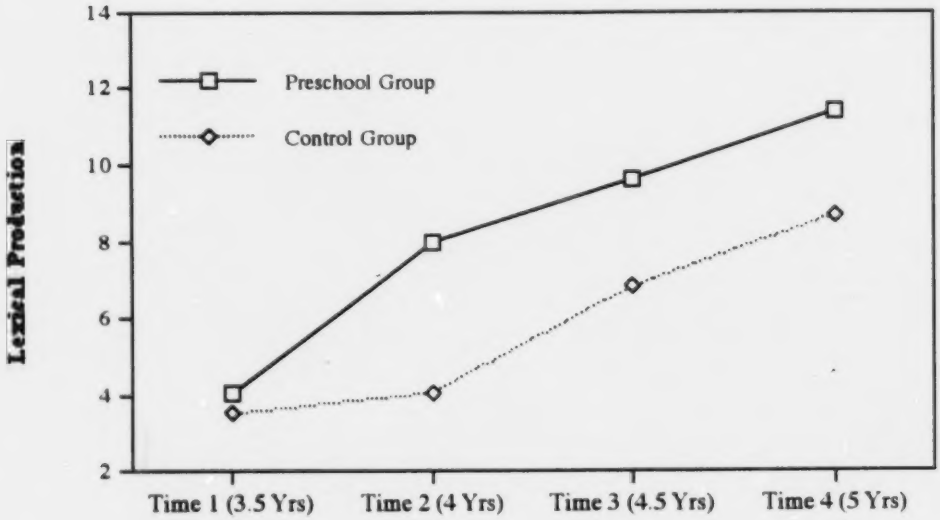


Sentence Comprehension

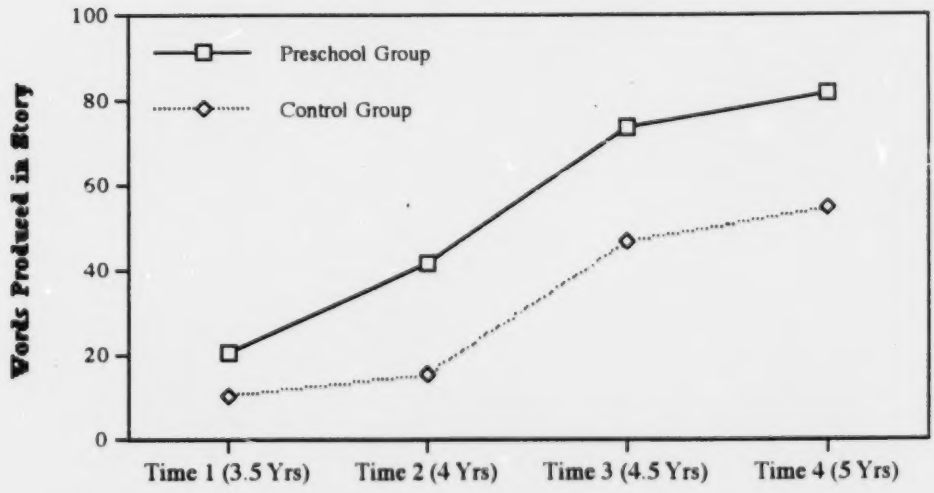


PRODUCTIVE LANGUAGE - ENGLISH

Lexical Production

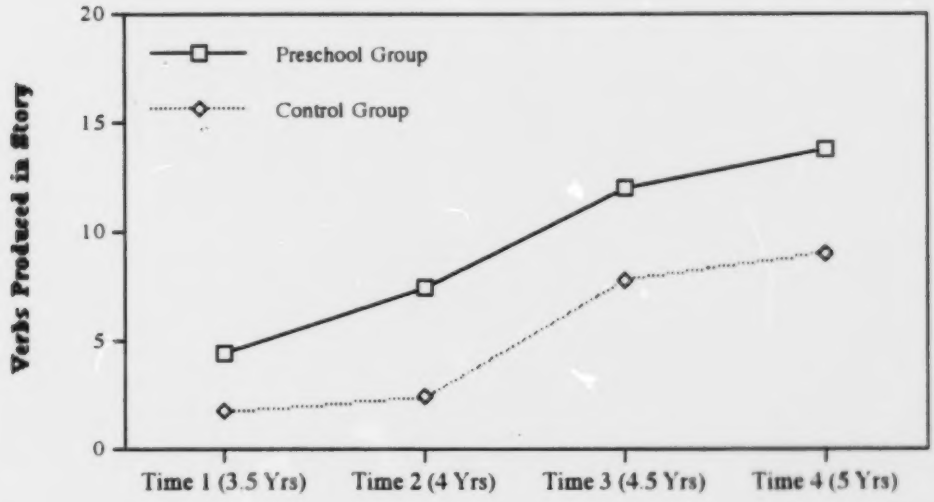


Number of Words in Story

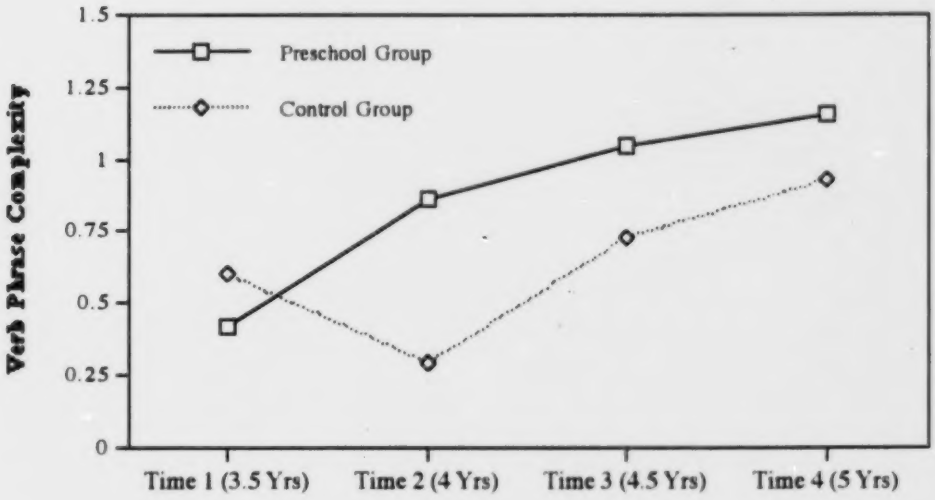


LANGUAGE COMPLEXITY - ENGLISH

Number of Verbs in Story

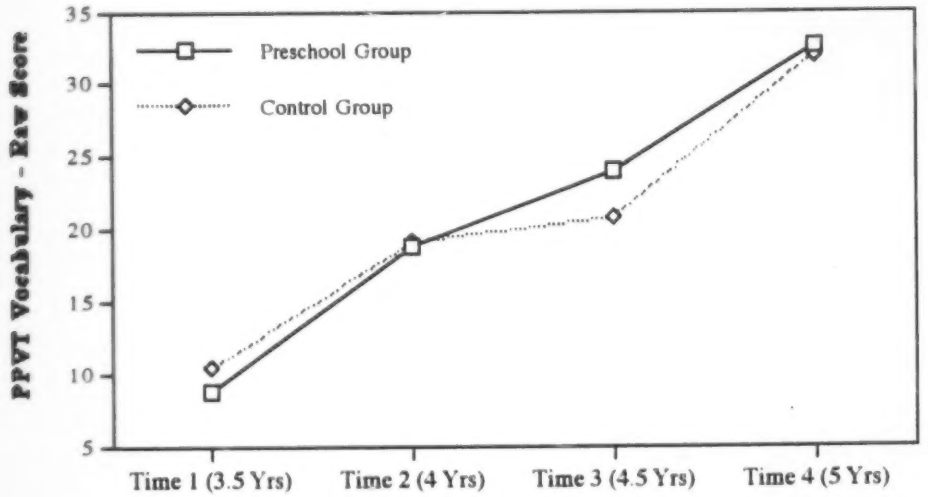


Complexity of Verb Phrases

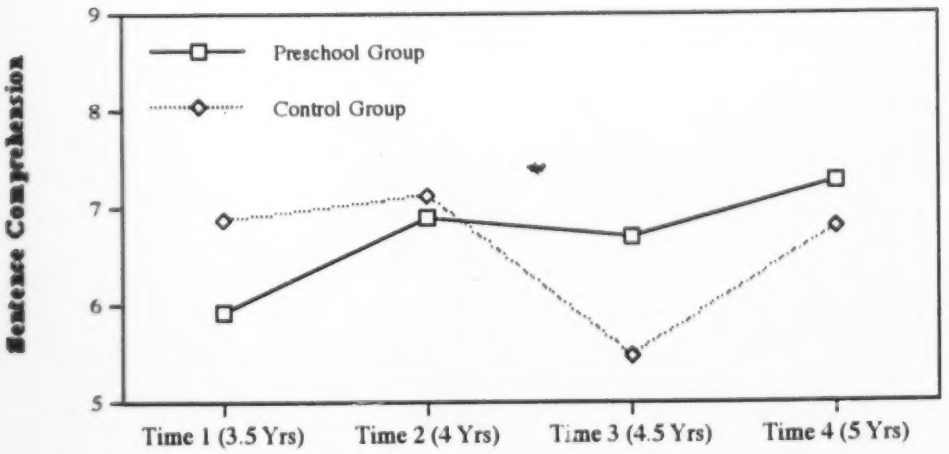


RECEPTIVE LANGUAGE - SPANISH

PPVT

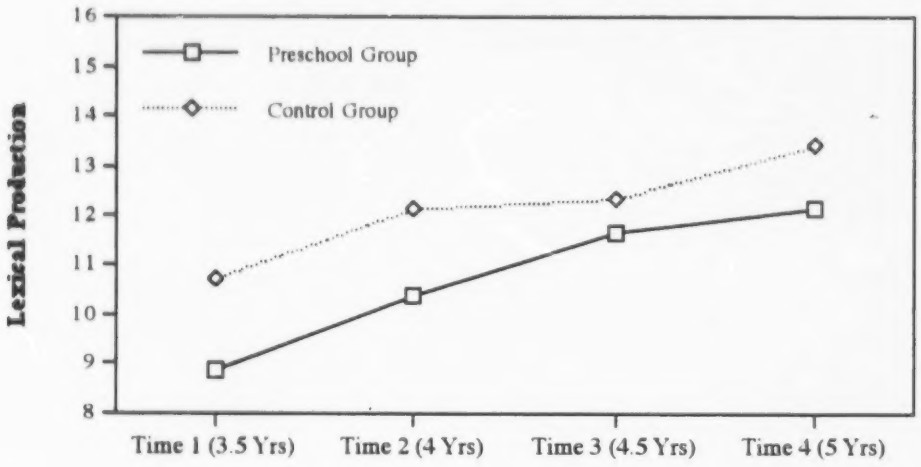


Sentence Comprehension

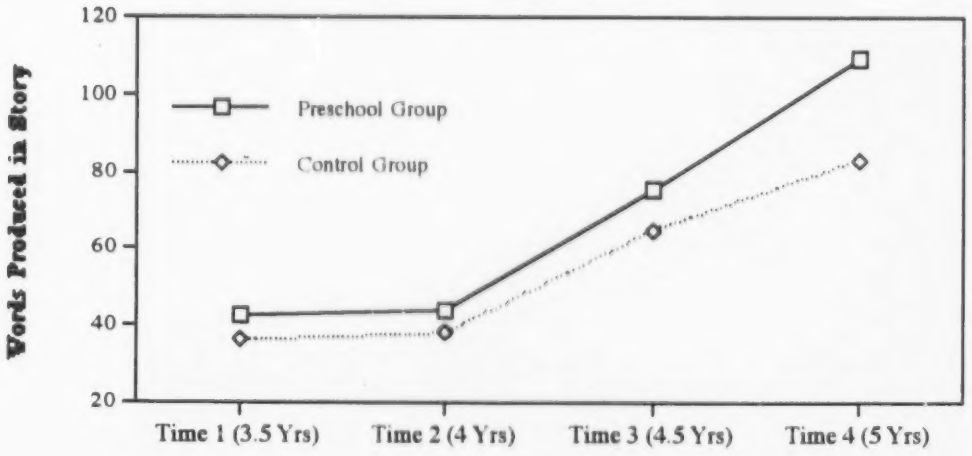


PRODUCTIVE LANGUAGE - SPANISH

Lexical Production

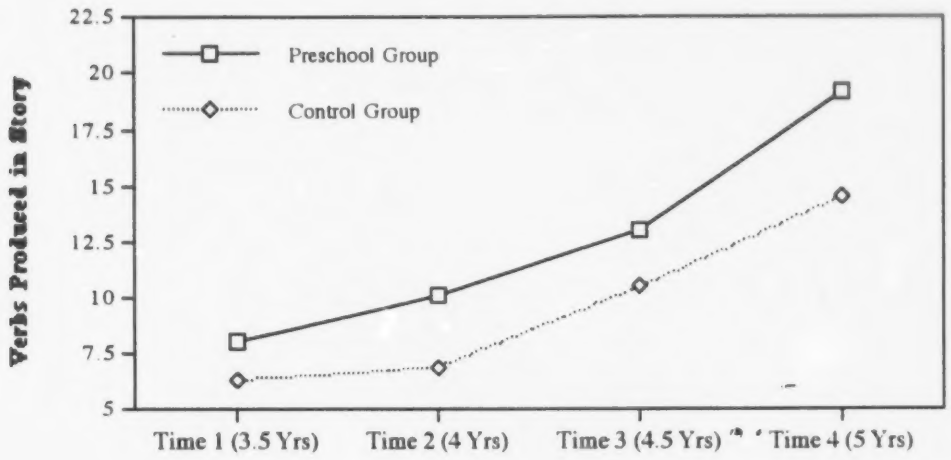


Number of Words in Story

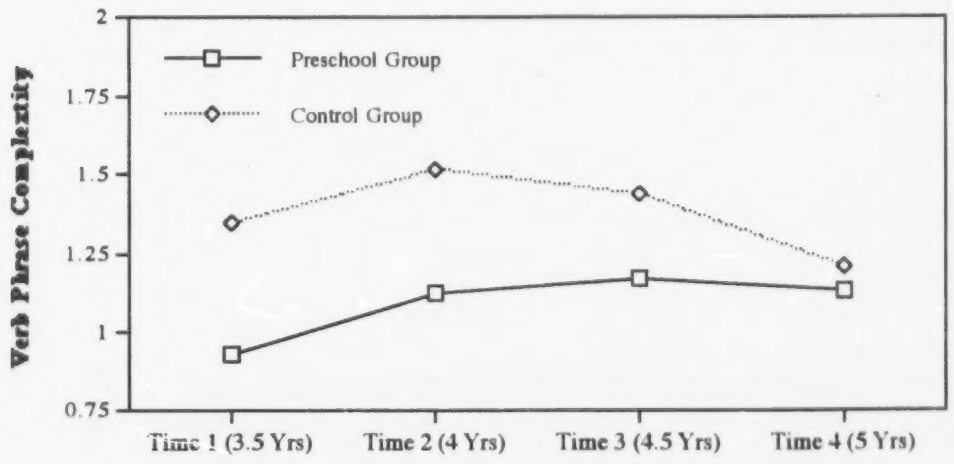


LANGUAGE COMPLEXITY - SPANISH

Number of Verbs in Story



Complexity of Verb Phrases



CONCLUSIONS

- This study replicates Rodríguez et al. (1995) in showing that Spanish-speaking, 3-4 year old children enrolled in high quality, bilingual preschools make significant gains in both Spanish and English over the course of one year of preschool.

- No evidence was found to suggest children's Spanish language proficiency is compromised by exposure to English in the preschool classroom. Receptive language, productive language, and language complexity, in Spanish, of children who attended preschool increased significantly over the one year period - similar to that which was observed for the control children who did not attend formal child care.

- The English skills of both groups of children improved significantly over time, however, the preschool group showed significantly greater English skills in general, and this group made significantly greater gains in English language production than did controls.

- The above bilingual language development patterns continue and strengthen a year later, as both groups of children show significant gains over a two year period in both Spanish and English language proficiency, with the preschool group continuing to make significantly greater gains than controls in some areas of English proficiency (i.e., language complexity).

- Sustained participation in a bilingual preschool does not have a detrimental effect on Spanish language development. In fact, children who attended the preschool for two years, in addition to gaining an advantage over controls in English, began to show a significant advantage at T3 and T4 in at least one area of Spanish competence (sentence comprehension).

- High quality bilingual preschools, in a community with reasonable support for the minority language, promote the development of both Spanish and English language skills.

FUTURE RESEARCH

- Important issues which will need to be addressed in future studies include:

  a) the effect of different qualities and different types of English/bilingual preschool on language minority children

  b) exploration into variation in the language environments of Spanish-speaking children who do not attend formal preschool

  c) the effect of the age of child, and whether or not there is an important difference in school experiences which foster/constrain the original *development* of language competence (that which was studied here) versus those that affect the *maintenance* of one's language skills already acquired

  d) investigation into other components of language loss, such as language choice and language attitudes.